

Flightfax

ARMY AVIATION
RISK-MANAGEMENT
INFORMATION

AUGUST 2000 ♦ VOL 28 ♦ NO 8

<http://safety.army.mil>

DISTRIBUTION STATEMENT A
Approved for Public Release
Distribution Unlimited

**Effective Tools
for the Commander,
and they are FREE**

Assistance Visits



Assistance Visits: Effective Tools for the Commander, (and they are free)

Today's commander is challenged on every front. He or she must continually find innovative ways to operate efficiently, effectively, and *safely*. Let me emphasize this last point. With all the tasks on the plate, all the upcoming major events, and all the competing interests and concerns, the one thing that will stop a unit dead in its tracks is a training fatality. Everything else becomes suddenly unimportant. All the dedicated work is lost. All planning and execution is wasted.

The time to think about safety is now. The Risk Management Process begins now and continues to evolve through the entire operation. The commander must therefore use every available tool to attack safety concerns. The Safety Center offers such a tool, free of charge. It costs you only a bit of time. This valuable tool is the Assistance Visit, conducted by USASC personnel trained in Risk Management techniques. We offer the commander an outside look and information package to provide the latest and greatest in dealing with command safety issues. This is not an inspection, but an independent look at ways to identify, and mitigate, or eliminate hazards to your soldiers.

WHAT WE DO

To date, we've conducted eight visits. I make a contract with the commander that everything found in his unit stays with him. The exception is when an issue beyond the commander's control can be resolved at higher levels through our intervention. Again, we do not conduct an inspection. We do look at trends. We provide the commander direct feedback as to how effective his safety program is accomplishing its mission, how to improve the safety environment, and how to integrate Risk Management into all unit operations. This ensures safety is an integral part of planning and execution, not just an afterthought, a checked block, or a paperwork drill.

The old adage "you don't know what you don't know" is true. We are one mechanism to provide you with what "you don't know." Some interesting trends are beginning to emerge from these visits. The following indicate some unhealthy safety trends:

Communications bottlenecks erode unit safety climate. Lower level units in particular, must know and feel the command presence, with emphasis on safe operations. The command safety team sets the safety climate in an organization. If the chain of command doesn't pass information about all

operations, in detail, the unit safety climate suffers. Informed soldiers are safer soldiers.

Hazards generally known at lower levels are not communicated up the chain. We talk to soldiers at all levels. We often find that the chain of command is entirely unaware of complaints about many safety issues. We use a tool called the Next Accident survey. We ask the soldiers what will cause the next accident. In one case soldiers identified an over-crowded hangar that would result in damage to an aircraft being ground handled. Within minutes, that very accident occurred. Soldiers often know what isn't right, but they may not know how to resolve the problem. Given an opportunity, soldiers will share their safety concerns.

The unit Safety Officer greatly influences the Command Safety Climate. If your safety officer or NCO is not aggressive, outspoken, and energetic, the unit safety program can become reactive rather than proactive. He must be trained, involved, and active in all operations. He must understand the Risk Management process.

Exceptionally high OPTEMPO may translate into hazard-producing shortcuts. Today's mission load can be taxing. As the plate fills up and the train moves on, time becomes critical and

scarce. Soldiers will tell you that there isn't enough time in the day to get everything done. We attack the most imminent threat first, and worry about the next event later. Sometimes we don't give adequate weight to proper planning and Risk Management techniques. The shortcuts begin. "We know this isn't the way we're supposed to do this, but next time we'll do it right." The translation is that we have just set a new standard. Most accidents happen when we ignore the standards.

Unit SOPs are generally not used, understood, or in some cases ignored, due to time constraints. This is an alarming fact. Ask your soldiers what the SOP says about accomplishing a given task. Ask your junior leaders the same question. They may have an understanding of the basic task, but will likely be unaware of what the SOP describes. SOPs are developed from lessons learned the hard way. It is a tragedy to pay with blood for something already known. Take, for example, the Heavy

Equipment Mobile Tactical Truck (HEMTT) split rim wheels. Soldiers might or might not be aware of this serious hazard. They likely don't know the proper procedure to inflate a tire using the proper precautions. Two soldiers in the past year paid for this lack of knowledge with their lives. Enforce the SOP. Make certain soldiers know and understand its contents.

We have outstanding soldiers. They will always find a way to get the job done. If they know and understand the standard, they will follow it, given adequate time and resources. It is the command's responsibility to ensure they have the knowledge, time, and resources necessary. Our Assistance Visit is a tool to help you do just that.

THE SAFETY CENTER LOOK

The Safety Center analyzes trends from assistance visits. We are the Army Staff agency for safety, providing information to the senior leadership on trends across the

Army. Issues affecting like units are addressed at the Army Staff level where decisions are made concerning suitable resources, procedures, equipment, and OPTEMPO.

We typically look at brigade-sized units, offering a menu of events to the command. You pick and choose what you want. You are our customers. We will provide feedback on your safety program, information on recent accidents and trends, Risk Management integration tips and techniques, Driver's Training Program updates, and Privately Owned Vehicle (POV) toolbox training. The Director of Army Safety will personally speak to your senior officers, providing unique insight to accident prevention. All you have to do is ask. For more information check out the Safety Center website at www.safety.Army.mil, or call us directly at DSN 558-1253/2908, comm. (334) 255-1253/2908.

—LTC Mark Robinson, Chief, Risk Management Integration Division, US Army Safety Center, DSN 558-1253 (334)255-1253 robinson@safetycenter.army.mil

How About Those Junior Officers?

Do you think junior officers and warrant officers need risk management training? A vast majority of critiques from soldiers attending our NCO Professional Development course strongly recommended that their supervisors get some sorely needed Risk Management training. We listened and developed a special program just for the young lieutenant, captain, or warrant officer in a leadership position. The Junior Officer Professional Development (JOPD) course is based on the valuable Risk Management

training conducted in the NCOPD course, tailored to the junior officer level of responsibility.

The three-day, 24-hour JOPD course is focused on hazards identification, risk management, and the Army Safety Program and leader responsibilities. The target audience is the young company grade officer or warrant officer technician charged to integrate risk management into both the planning and execution phases of training and operational missions. An additional benefit of this training is that the officers can transfer this knowledge and become better

off-duty risk managers.

Units provide up to 30 junior officers for three days of training. The only cost to the unit is the commitment of time and personnel. We pay for everything else! In return, the course produces officers better prepared to identify and control hazards in motor pools, convoys, ranges, wherever high-risk operations may occur.

The course consists of classroom instruction and practical exercises in understanding risk management, risk management integration, and hazard identification. Lessons learned from actual accidents are then integrated into the training. Student officers are provided tools to assist them in managing risks for their soldiers, both on and off duty. Finally, they will have an

opportunity to apply what they have learned at an on-site safety visit to an operational facility, typically a motorpool.

Risk Management is the Army process for enhancing combat readiness and reducing losses. Trends show that junior leaders often fail to execute their responsibilities to manage risk and enforce standards, either due to ignorance or time constraints. The JOPD training will make a significant impact by providing risk management training to the "hands on" junior officer leadership of the Army.

Additional information and scheduling may be obtained by contacting USASC, (334) 255-2908, or from the U.S. Army Safety Center homepage at <http://safety.army.mil>.

You've had an accident—now what happens?

ACCIDENT INVESTIGATION BOARD DUTIES AND RESPONSIBILITIES

As we all know, the purpose of accident investigation is accident prevention. We want to protect the force so we can continue to do our mission.

Every now and then a unit will experience an accident that requires a formal accident investigation board be convened (Class A and B aviation and ground accidents and Class C aviation accidents, excluding off-duty fatalities/injuries not involving military operations). These investigations can be conducted by one of two different types of accident investigation boards.

The first type of accident investigation board is headed by personnel from the United States Army Safety Center (USASC) (Centralized Accident Investigation - CAI) and supplemented by

personnel from the local command.

The second type of accident investigation board is made up of personnel from the local command (Installation Accident Investigation - IAI). Both types of accident investigation boards are charged with investigating the accident to determine what happened, why it happened, and what can we do to prevent it from happening again ("3W Process"). We are required to follow the instructions in DA PAM 385-40, *Accident Investigating and Reporting*, to conduct the investigation.

SOME PROBLEM AREAS

As I review accident reports, I am finding that some accident investigation boards are not



completely following instructions for investigating the accident. This is causing a delay in processing the reports and implementing recommendations to prevent future accidents.

The first error is not following procedures for the submission of DA Form 2028, Recommended Changes to Publications and Blank Forms. Numerous accident reports are forwarded to the USASC with a recommendation that the

USASC submit DA Form 2028 to correct an error in a publication the accident investigation board found during their investigation. It is the accident investigation board's responsibility to complete and submit the DA Form 2028. A completed copy of the DA Form 2028 should be included in the report submitted to the USASC (DA PAM 385-40, paragraph 3-17d(15)(c)).

The next error is that accident reports are being submitted with a recommendation that the USASC send a specific part that the board suspects failed to Corpus Christi Army Depot (CCAD) for teardown analysis. Again, this is the accident investigation board's responsibility. DA PAM 385-40, paragraph 2-5, lists the instructions for submitting failed parts to CCAD for teardown analysis.

The last error is writing the findings and recommendations

for aviation accident investigation reports. Findings and recommendations for Class A and B aviation accidents are entered on DA Form 2397-2, *TECHNICAL REPORT OF U.S. ARMY AIRCRAFT ACCIDENT*, Part III – Findings and Recommendations. Findings and recommendations for a Class C aviation accident are entered on DA Form 2397-AB-R, *Abbreviated Aviation Accident Report (AAAR)*. The instructions in DA PAM 385-40 for completing the form state, "Instructions for writing findings and recommendations are contained in this pamphlet." However, the pamphlet does not tell you where to find these instructions. This is an error on the part of the USASC and will be corrected during the next update of the pamphlet. Write your findings and recommendations using the instructions for completing DA Form 2397-2. The instructions

are found on pp 27-30, DA PAM 385-40. Also, follow these instructions when writing findings and recommendations for an accident that requires the submission of DA Form 285-AB-R, *Abbreviated Ground Accident Report (AGAR)*, or DA Form 285, *U.S. ARMY ACCIDENT REPORT*.

Appointing a safety officer to the board as an advisor could eliminate a lot of these errors. If that is not possible, these errors could be corrected when either the Aviation Safety Officer (ASO) reviews the accident report or the Installation Safety Officer reviews the report prior to it being submitted to the USASC.

By following the proper procedures when investigating accidents and writing your findings and recommendations properly, corrective actions can be implemented faster, thus preventing future accidents.

—Gary Braman, Aviation Systems Accident Investigation Division, USASC, 558-2676 (334) 255-2676, bramang@safetycenter.army.mil

Update to AR 385-10

Change 1 to AR 385-10, The Army Safety Program, was published 29 February 2000, in electronic format. Change 1 to AR 385-10 provides risk management policy and definitions and provides authorization for collateral duty personnel to perform Standard Army Safety and Occupational Health Inspection. Paragraph 2-1, Organizational structure was revised to organize and staff a safety office that includes four core areas and six "as applicable" areas. Pertinent aspects of AR 385-15, Water Safety, (including tactical and recreational water safety) were incorporated into paragraph 2-2n and AR 385-15, Water safety, was rescinded. Relevant

aspects of Chapter 6, Personal Clothing and Equipment, were updated and moved into other sections and Chapter 6 was deleted. New Appendix B adds Management Control Evaluation Checklist guidance for the Army Safety Program.

The new AR 385-10 replaces the 23 May 88 edition and is available in electronic format only through the Army Publishing Agency web site. You can download a copy by going to our website <http://safety.army.mil>, then go to Guidance, Safety, Army, AR 385-10.

Editor's note: Please discard any copies of Change 1 to AR 385-10 downloaded prior to 17 May 2000.

—POC: Mr. Truman Taylor, USASC Policy and Programs Branch, DSN 558-2609 (334-255-2609), taylort@safetycenter.army.mil

Bad day at the beach

It was about 4:20 pm on a Saturday in August, and I had been out in the Mediterranean Sea playing around. There were six in our group: my wife, Berin, and I had been swimming together, and her brother, sister, and her sister's two daughters had been playing down at the beach. It was late, and I was tired, too tired, and I was swimming into shore. I didn't think I was this far from the beach when I swam out, but that was about two hours ago, and I had migrated down the beach away from everyone quite a bit.

I don't consider myself a swimmer. I took one swim class when I was 18, twenty years ago, and left that class with the sidestroke and backstroke—I still remember them. But the more I tried to use those strokes, the more tired I became. When I got to where I could put my feet on the sand, I gave up and slowly started to walk in, bobbing my head to stay above the surface. The water was at my knees when I first heard her shout my name.

WHY WON'T ANYONE HELP?

When I first turned to look at Berin, I could tell she must have been shouting for a while. I couldn't see her face clearly, but she had "that" tone and volume that told me she was scared. She was shouting in Turkish, except for my name. I immediately turned and

started "running", then swimming, out to her.

Berin had a large truck tire tube she had been floating on, but she was now holding onto the side of the tube and trying to swim. When I got to her, she stopped splashing and started shouting in English, "Help them...why won't anyone help them?"

She was now pointing with one hand and holding onto the tube with the other. I turned and saw Berin's sister and niece frantically swinging their arms. Berin's youngest niece was between them holding onto Berin's brother's chin and neck area. All the others blocked Berin's brother from my view. I was so tired I didn't hear them. I was so very tired. I took the tire tube and headed for them. The only thought I remember having was "kick, kick, kick." I probably looked like a child, pushing a tire tube with both my arms outstretched and kicking.

I had seen people all day trying to show others how to swim doing the same thing. But this wasn't like the tube race I was in at the base pool. This was real, and I was scared to death.

I COULD HEAR THE LITTLE GIRL SCREAM

As I got closer, I could hear the little girl scream. Not words at first, just screams. She always seemed to scream a lot, when playing or when she didn't get her way. Some

children are like that. Perhaps other swimmers and those on the beach disregarded her because of it. *I don't know why no one helped.* I could hear Turkish words now, "CABUK, CABUK" ("Hurry, Hurry!").

The youngest girl had one arm around her uncle's head, and the other was waving at me. "Cabuk," she yelled, "cabuk". No one has ever asked me for help like that. When a child needs help, there is a certain universal sound and look that is impossible to misunderstand. I aimed for her. When I looked up again, I saw my brother-in-law was coming up from the water. His eyes had a desperate look, but he wasn't shouting. He went under again



before I reached them.

I was sure there were too many of us to all hold the tire at once. I made sure the little girl grabbed the tube before I let go. Then the others grabbed hold. I was so tired. When I could take hold again, I remember thinking, "Oh, God. Please let it hold us." I was so scared. I started to kick again and splashing with my right arm, like my wife had been maybe four minutes ago. I could see the shore now. The littlest girl was screaming again, so I knew she was still there. I didn't know the word for "Help!" in Turkish, so I just screamed it in English. I hope I never have to yell like that again. I yelled as much as I

could and as loud as I could. I was making eye contact with people in the distance now. I could see their heads turn and look. I could see a man with black trunks staring at me. He looked RIGHT at me, but no one came...no one shouted back...no one helped.

I could hear water splashing now from behind me. I wanted to stop, but I was too tired to see if anyone else had started kicking. Suddenly there was a man standing next to me pushing the tube. I could tell I wasn't moving the tire now. I stopped kicking. A second later, a woman was standing in front of the tube taking the still-screaming little girl in her arms. My wife and others were

helping my brother-in-law, his sister and her older daughter. Someone was helping me now. I collapsed on the beach. I tried to vomit some of the water I had swallowed, but felt too tired to even do that. I couldn't move. I just stayed there, on all fours, until I could walk.

THE AFTERMATH

We all sat silently in shock for a while. Everyone else on the beach was still going about his or her business, as if nothing had happened.

My hope is that someone—anyone—will learn from my nearly catastrophic experience:

1. Never, never go past your limit. Remember, swimming back is not the same as swimming out. Go back to shore *before* you're tired. They recommend stopping for 10-15 minutes for every hour you drive. Do that when swimming also. **GET OUT OF THE WATER AND TAKE A BREAK.** You may want to turn off the "military thing" for the weekend, but **SAFETY** can't take a break. Stay vigilant.

2. Keep control of your group. According to Turkish customs, family comes before all else. Many Americans feel the same way. This applies to all social strata and income levels. When it comes to decision-making, I now secretly appoint a soft spot in the team and use them as a monitoring point. If they can't do it, then the team can't. We all stick together.

3. In Turkey, America, or Timbuktu, many places don't have lifeguards or security to



help. Regardless, when faced with an emergency, having the presence of mind to act, to actually respond appropriately, is a rare strength for anyone, even emergency responders. We would like to think that as members of the military, we will do this or that during a crisis. No one knows the future, but I promise you, whatever you choose to do (or not do), you'll remember it for a long time.

4. Plan for contingencies with your family. Maybe get a little silly and play a game

of "what if." For me, that means making sure everyone takes another swim class before we hit the water again. For you, it might mean carrying a telephone card in your wallet, or a flashlight in your car. For others, it may mean to do more than just be in the right place at the right time. The best thing you can do is try to identify, mitigate, and plan for the risks involved in your activities BEFORE you begin to participate. It's always best to stay out of trouble rather than jump blindly into it.

After it was all over, we spent many hours going over what we did. It doesn't take a psych major to know that talking helps, and the ability to do so is a strength, not a weakness. I think the adults were more frightened than the kids were, but we all learned. With the proper planning, risk management, and maybe just a touch of luck, I intend to do all I can to make sure nothing like this ever happens in my family again.

—Reprinted with permission from *Torch*, US Air Force

Use your Kiowa's data transfer modules

Digital source collectors have proven themselves over and over to be valuable maintenance and safety tools. The OH-58D (R) Kiowa Warrior's digital source collector is the data transfer module (DTM). Data recovered from the DTM has been used for engine salvage and replacement decisions. Data recovered from the DTM has also been used to investigate numerous Class E through A accidents. The DTM, however, is useless if not installed on the aircraft.

The Army has experienced several occasions in which the opportunity to record valuable maintenance and safety data was lost because the flight crew did not install the DTM before flight.

Therefore, flight crews should never fly without a

DTM installed on their aircraft. Further, if a flight crew experiences an in-flight mishap, accident or system malfunction, the crew should remove the DTM as soon as possible to avoid overwriting the event data.

MAINTAINING THE DTM.

Maintenance personnel should follow the following maintenance procedures:

- a. Always store the DTM in a dry, well-ventilated place free of dust and other contaminants.
- b. Avoid dropping, denting or banging the DTM. Severe impacts may damage the memory chips inside the module.
- c. Avoid contact with the pin receptacles in the back of the cartridge. Damage to the pin receptacles may interfere with the transfer of data from the

cartridge and/or the storage of data on the module.

PERFORMING OPERATIONAL CHECKS OF THE DTC.

Before use, flight crews should perform the following operational checks:

- a. Visually inspect the DTM for cracks or dents that could indicate damage to the recording capability of the DTM.
- b. Load mission data, even if the data is not to be used in the mission. This allows flight crews to ensure that mission data can be transferred to the aircraft. This check also ensures the cartridge is functioning properly and will perform as a flight data recorder.

Remember, the DTM can't help us if it's not installed.

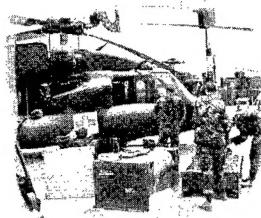
—Joseph Creekmore, RAM, Inc. DSN 558-2259, (334) 255-2259,

NCO Corner: THE UNSUNG HEROES

We have heard the expression, "Where have all the heroes gone?" In the Army Aviation community, the emphasis is primarily placed on the Operator (pilot) and crew. When a pilot has avoided a potential catastrophe, he or she gets a Broken Wing award (deservedly so). Awards are given and the stories get told.

Let's take a moment to look at the big picture. How many maintenance types does it take, and how much time does it take, to make that airframe airworthy? Quite a few MOS's, Crew Chiefs, shops personnel, and mechanics are required to perform the task. Of these MOS's, they too have their "Glory times".

Consider this for a moment. Pilot and crew are given a mission to fly the following day. It's wintertime and the weather's cold with blowing winds. The crew takes the proper time to do a thorough preflight while braving the elements. The crew takes the time to start the aircraft,



ignite the engines, and perform the checks. Time to get some heat into the aircraft. When the cabin gets warm, everything works as advertised.

Consider how frustrating it would be if the battery failed to start the aircraft. Here enters one of many unsung heroes.

We take for granted that every time the battery switch is activated, we will have DC power. Do you realize what tasks are involved? The battery technician is usually isolated in a shop away from the other work places, because of the toxic fumes and explosive gases that are generated when charging takes place. It's a tedious job that requires the utmost attention. Day in and day out, the same task is performed. That task, if done incorrectly could possibly severely injure or kill the technician.

Let's take it one step further, after the battery switch is turned on and everything works. That's IF you have fuel in your aircraft.

How about those POL folks? First on the job and usually the last to leave. Pumping fuel, making sure

it's clean and without contaminants, testing and recirculating fuel, doing PMCS on their vehicles, etc. Not to mention the hazards involved. How far would we get without those folks? They are out there, day in and out, warm and cold, day and night, pumping fuel. These are just a few of the unsung heroes.

Next time you're on your way to preflight, to a meeting, or just passing through the hangar, take the time to say thanks to our people "behind the scenes".

Our Army is getting smaller and the expression Teamwork becomes more paramount than ever. It's time we make time to acknowledge the unsung heroes a simple "I appreciate what you're doing" will suffice.

They're out there everyday doing what they're trained to do. We, as operators, supervisors, and leaders need to acknowledge these unsung heroes in their "House" and take the time to say thanks for what they do. You'll be pleasantly surprised at what happens when you turn that switch on.

—CW3 Henry Dubiel (Maintenance Officer), Det 2, Co D, 245th AVIM BN, Silverbell AHP, Marana, AZ 85653, DSN 853-5975

New ASO Director

There's a new director of the Aviation Safety Officer Course. CW5 Butch Wootten has turned the reins over to CW4 Don Wright, formerly Officer in Charge of NCO professional development for the Safety Center's Mobile Training Team. Mr. Wootten joins the Safety Center's Aviation Investigation Division. Thanks, Butch, for a job well done.

The Army goes to sea —

Recent history has demonstrated the necessity for shipboard/helicopter interoperability, that is, the ability for Army, Air Force, and Marine aircraft to operate effectively from Navy ships.

Out of that necessity was born J-SHIP — the Joint Shipboard Helicopter Integration Process. J-SHIP was chartered in July 1998 by the Office of the Secretary of Defense as an official four-year Joint Test and Evaluation program.

Recent history has shown us a marked increase in shipboard operations by non-US Navy/US Marine Corps helicopters aboard US Navy, Military Sealift Command, and US Coast Guard ships.

Various service commands and agencies representing the operational, acquisition, and testing communities within the Department of Defense have provided enormous support to the program and its goals.

The Navy is the lead service with Army and Air Force participation in test resources and personnel within the joint test force.

The J-SHIP team is composed of military, government, and contractor personnel. Computer Sciences Corporation and DCS are the prime contractor team with



strong support.

Recently, Bob Giffin of the US Army Safety Center has been aboard both the Essex and the Constellation in support of J-SHIPs. Here are some lessons learned to date.

GOING TO SEA?

You say it can't happen to you. That's what the 4/2 ACR, 10th Mountain Division, and 159th Aviation Regiment said before they found themselves on a Navy ship heading to Haiti. For those who have never experienced shipboard helicopter operations, it's a rude awakening. Not only will seasickness complicate your mission accomplishment, shipboard operations pose many hazards foreign to Army Aviation.

You can mitigate the risk to most of these hazards through

proper planning, training and just being aware of those hazards. If your unit has an over water task list, make FM 1-564 part of your training. J-SHIP is helping to enhance the information in FM 1-564 through a series of 12 Dedicated At Sea Tests (DAST) of various ship/helicopter combinations over the next few years. The results will be located on a web site and a CD that will be one-stop

shopping to find everything you need to know to deploy, and operate successfully aboard a ship.

Water Survival Training is a must, and it isn't a cakewalk. Just ask some of the Army crewmembers who recently failed to pass their swim test training for J-Ship's 3rd DAST on the aircraft carrier USS Constellation. Not only will you need to be trained; your unit will need to procure water wings and HEEDS (Helicopter Emergency Egress Deployment System) bottles for underwater emergency egress.

There is no more intensive electromagnetic environment than on a ship, called Electro Magnetic Interference or EMI. The high power emitters are less than 100 meters from your maintenance and staging

areas. Each of these emitters has differing effects on your helicopter's ordnance, communications and electronics—some effecting safety-of-flight systems such as hydraulic controls, AFCS or radar altimeter.

Just one rocket or missile that is accidentally exploded by a ship's high power emitter or is overheated can ruin your whole day—That's what happened on the USS Forrestal that burned for 3 days and claimed 132 lives from just one loose missile. The Navy now has the HERO program

(Hazards of Electromagnetic Radiation to Ordnance) to mitigate the radiation risk. J-SHIP plans to provide all known EMI/HERO hazards on their web site so you won't have to dig them out of old test reports, and then try to interpret engineering reports on how field strengths of certain frequencies affect your various electronic systems and ordnance.

These are just a few of the considerations that your unit might want to think about when the word comes down that your next mission is to go aboard a US Navy ship.

Have any interesting safety-related experiences on a Navy ship? Send your "Sea Stories" to garybc@navair.navy.mil

List of things to consider:

(Soon available at www.jship.org)

- FM 1-564, Helicopter Shipboard Operations
- Joint Pub 3-04.1, Joint Shipboard Helicopter Operations JTTP
- Army/Air Force Deck Landing Operations (Joint MOU)
- Helicopter Emergency Egress "Dunker" Training
- Navy Water Survival Training
- HEEDS Training
- Corrosion Control—fresh water washing for engines and aircraft

Submitted by:

CDR Bret Gary, USN, Deputy Test Director, J-SHIP (301) 342-4936, x 219, garybc@navair.navy.mil and

Mr. Bob Giffin, CW4, Ret., USASC, Safety Systems Manager (UH), DSN 558-3650 (334) 255-3650, giffinr@safetycenter.army.mil



True Faith

In the evening earlier this spring, a military aircraft crashed near my home. This crash resulted in the deaths of 19 U.S. Marines. Although crashes of military aircraft and deaths do occasionally happen, this crash reminds us of the saying about history being doomed to repeat itself. Although this involved a new aircraft, this type of mishap scenario has happened before, with other aircraft. While all of us who fly are prepared to risk our lives for our country, we are never truly prepared to handle the tragedy of a mishap.

The previous afternoon I had been browsing Internet links through the Vietnam Helicopter Pilots' Association (VHPA) web site, looking at names of aviators and crewmembers I served with, who died in Southeast Asia. When we think back on significant events that have influenced our lives and careers, we are reminded of those events that not only impressed us in their vividness, but also frightened us out of our wits. Those of us who have actually witnessed aircraft mishaps will never forget seeing the crash and the resultant heartbreak outcome.

Each day we are bombarded with stimuli from every imaginable source. What sets us apart from each other is how we filter and interpret this information. Our backgrounds,

education, training, and experiences influence this process. Each of us in aviation has a fairly similar common 'core of experience' due to the standardization of training. It is because of this core of experience that we seem to react and are affected the same way when a mishap occurs, especially one that results in loss of life. Much has been written about the 'bond' of camaraderie among soldiers, but aviators and crewmembers share this bond or affinity for each other even more strongly. That's why we are all so intimately affected by a mishap and death – "there but for the grace of God, go I". When that mishap literally occurs near home, the reality of the events is made even clearer and more personal.

We as Instructor Pilots (IP) and Aviation Safety Officers (ASO) have a regulatory responsibility to ensure we provide the commander with our very best. Not only is it our sworn duty to our country, but also it's a moral duty to our fellow soldiers, sailors, airmen, and Marines. While we all swore to "support and defend" and "to bear true faith and allegiance" to the Constitution, we must always remember that the oath also applies to the people we are sworn to protect.

When we look at the results of an aircraft mishap, we as IPs and ASOs must honestly ask ourselves how we might have positively influenced that mission and helped prevent the mishap. Did it occur due to

a quirk of fate, an engineering flaw, a maintenance error? Or could an IP, ASO, or even another soldier have removed a weak link in the mishap chain?

When we think back, we are reminded of events we experienced where various people have had profound influences in our lives. If we are lucky, we remember those people who actually saved us from becoming a mishap statistic. If we are honest with ourselves, we'll even admit and admire those people who saved us (and consequently other people) from ourselves.

While it is very commendable to excel in non-aviation activities, it is the unforgiving profession called military aviation that demands our attention. There is no room in military aviation for personnel not contributing 100% to the unit mission. Aviation is a deadly serious business that requires each of us to devote all of our attention. It is our duty as IPs and ASOs, to assist our fellow aviators and crewmembers in learning and maintaining their skills through qualification and refresher training programs. We must ensure they understand the purpose of aviation methods, procedures, and techniques, and why these influence combat readiness. We must also be brave enough to honestly advise the commander about his or her unit's *true* state of combat readiness.

Although these are our assigned duties, we as IPs and ASOs have an even higher duty to perform. We have a truly

sacred obligation to ensure the aviators, crewmembers, and their leaders are prepared, through the very best of our ability, to perform their own assigned duties. When an aircraft mishap occurs, we cannot help but wonder if we failed those involved in some way. Did we teach them everything we could? Were they listening in class? Did we teach them to employ all the elements of aircrew coordination? Could they perform their Aircrew Training Manual (ATM) tasks to standard? You can second-guess yourself forever and never resolve these questions. We hope we did our best and must continue to strive to provide the best instruction and advice, and ensure it is received and understood.

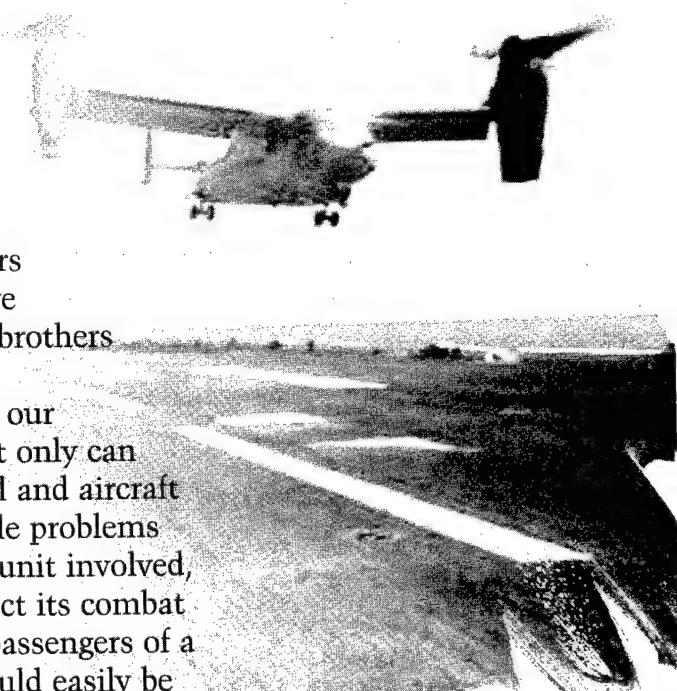
The IPs and ASOs are the commander's professional advisors, and it has been said - his conscience. In this capacity, they can have positive influence upon a unit, if the commander and the unit are astute enough and willing to heed their advice. It is our job as professionals to 'sell' our specialized advice or product. It is here where the IP and ASO must be totally professional and above reproach. If that instructor or safety officer is not diligent all the time, his credibility will suffer and may have a negative impact on the unit. This is the most difficult and challenging part of our job. While the various regulations, manuals, SOPs, etc provide the authoritarian basis for instruction and safety, the

outcome of the IP's and ASO's influence can sometimes be difficult to measure. Although measurements like the ARMS do gauge success, they may not be able to judge the successful influence that the IP and ASO have on their unit. Mission accomplishment and positive safety records do enable instructors and safety officers to be justifiably proud of their unit and its individual accomplishments. Personal satisfaction comes from knowing you did the job right, the first time.

Each of us must continue to strive to "to be all that we can be" in aviation. The mishap I mentioned above resulted in 19 deaths, 15 of which were passengers. We must always keep in mind not only are aviators and their crewmembers involved in aircraft mishaps, so are their innocent passengers. A mishap resulting in casualties also creates devastation in the service members' families, and it affects us all. To put it in an even more important prospective, the crew and passengers involved could have been our spouses, brothers & sisters, sons & daughters, or even our grandchildren. Not only can losses in personnel and aircraft cause severe morale problems and devastate the unit involved, it can actually affect its combat capabilities. The passengers of a mishap aircraft could easily be

a division commander or other personnel who could decisively influence the outcome of combat operations. It is the instructor pilots' and aviation safety officers' job to impart their skills and knowledge, and help their unit increase its warfighting capabilities, which help preserve soldiers' lives. We must keep in mind that professionalism is truly a Combat Multiplier. As we IPs and ASOs perform our sworn duties, we must keep in mind - that we indeed, have a moral obligation to "bear true faith and allegiance" to our fellow soldiers, sailors, airmen, and Marines. We can accomplish this by having the integrity to be totally professional and living up to our oath. To quote a line from the movie Gettysburg, "what we're fighting for, in the end, we're fighting for each other".

Llewellyn Buck
MAJ, USAR (Retired)
GS-13 (Retired)



Apache pilots view the world differently

Apache aviators have a unique way of viewing the world during flight. They use a monocular (right eye only) helmet mounted display (HMD) called Integrated Helmet and Display Sighting System (IHADSS). Forward looking infrared (FLIR) imagery and flight symbology are first reproduced on a miniature cathode ray tube, and then delivered to the eye by relay optics.

When first developed, the IHADSS one-eyed design gave us smaller packaging, reduced head-supported weight, and lower costs. The success of the IHADSS in the Apache is due to IHADSS designers, and the skill of the aviators who use it.

However, monocular HMDs impose a unique visual situation which is unnatural to our normal vision process. This can cause a conflict in what is perceived by the pilot. Some concerns include:

Limited Field of View (FOV)— The field of view with IHADSS is reduced over normal vision, causing the need for increased head movement.

Small exit pupil— The exit pupil is circular, and 10 mm in diameter. It must be placed very close to the eye, and remain stable, or FOV will be further reduced.

Binocular rivalry potential—

When using the IHADSS, each eye receives different information. This causes viewing conflicts between the pilot's aided eye (viewing the IHADSS imagery) and the pilot's unaided eye (viewing the outside world.) Aviators may have trouble switching attention between the two scenes.

Eye dominance— The IHADSS is viewed only by the right eye. Most individuals have a preference to use one eye over the other to perform specific visual tasks.

All of the above can result in increased visual workload. This can show up as visual discomfort, headache, blurred or double vision, or afterimages.

There are other equipment items that can have an impact on visual performance. These include the M-43 chemical mask, and the KG-3/5 laser protective modified spectacles. Either of these can force the

IHADSS combiner away from the eye, which will further reduce field of

view, and increase your visual workload.

Data on visual performance

In 1990 the US Army Aeromedical Research Laboratory (USAARL) conducted a three-part study following anecdotal reports of problems and concerns over



potential long-term effects of flying with the IHADSS. The study, while verifying a number of complaints, found no evidence of any significant changes in vision.

There are also physiological issues which may affect aviator performance. The eye constantly changes as we age. One of these changes in accommodation—the eye's ability to "auto-focus". Past the age of forty, we lose some of our ability to focus on near objects.

In a continuing effort to investigate helmet mounted display visual issues, USAARL is building a database of aviator visual performance with the IHADSS. You can have input to this database by signing on to a special USAARL web page and filling out the IHADSS Vision Questionnaire. All information is collected anonymously and will be used for research purposes only.

—Clarence E. Rash, research physiologist, USAARL, DSN 588-6876, (334) 255-6876, Clarence.rash@se.amedd.army.mil

Accident briefs

Information based on *preliminary reports of aircraft accidents*

AH64

Class C

A series

■ Loud report, shudder, and grinding of tail rotor controls emanated from aircraft during engine run-up in idle position. Emergency shut down was performed and MTP egressed aircraft without further incident. No. 4 drive shaft appeared twisted/severed 18 inches forward of the No.1 anti-flail assembly.

■ While at a sustained hover in steep sloping mountainous valley terrain, aircraft inadvertently drifted to the rear and made contact with trees on steep slope, causing damage to aircraft. Aircraft was flown to field site where maintenance was notified and the aircraft was repaired the following day.

■ During roll-on landing, tail wheel struck curb and was broken off.

Class E

A series

■ During takeoff the Backup Control System (BUCS) Fail warning light illuminated. The pilot aborted the takeoff without further incident. Maintenance exhausted all troubleshooting per the appropriate technical manuals without finding any faults. The maintenance operational check was okay and the aircraft returned to service.

D series

■ During cruise flight, tail rotor VIB gearbox light illuminated. Crew made a precautionary landing at airport. Maintenance officer, who was a crewmember in the flight, found grease level of the gearbox to be low. Maintenance replaced grease.

■ Aft deck fire was enunciated to crew. Aircraft was landed without incident. Post flight revealed smoke and strange smell from transmission area. It was noticed that a 28 vdc wire coming from the #2 trv was chaffed by and melted the fire detection wire.

C12

Class E

F series

■ During climbout, passing through 7500 AGL, PC noticed the left engine oil pressure gauge fluctuating between 70 PSI AND 80 PSI. PC reduced power on the left engine to 1000 LBS TQ and returned to airfield without further incident. Cannon plug to oil pressure transducer was cleaned. The aircraft was released for flight.

CH47

Class C

D series

■ During No. 2 engine HIT check, engine experienced a suspected materiel malfunction that resulted in rotor overspeed of 117%. Aircraft was immediately shut down.

Class D

D series

■ After hot refueling, the No. 2 engine beep failed to respond to normal inputs. The No. 2 emergency beep auto/manual switch was placed in the manual position to control the engine manually. The No. 2 N2 control box was replaced and the cannon plug was cleaned. No further incidents occurred.

E series

■ Main cabin escape hatch panel departed aircraft during flight while door was being lowered into the closed position. Despite extensive search, it could not be found.

OH58

Class C

A series

■ During power recovery from simulated engine failure, rotor RPM exceeded allowable limits. Tail rotor blades were replaced.

Class E

A series

■ In straight and level flight, PC made a collective increase. The low RPM audio came on with a visual drop in N1 and N2. PC entered power off autorotation to the ground with emergency shutdown. No damage to airframe. Initial inspection after shutdown revealed leaks in the PC/PYfuel control lines. Lines replaced.

UH60

Class C

A series

■ During NOE flight, aircraft's main rotor contacted trees. Damage to all 4 main rotor blade tip caps was found on postflight inspection.

■ During postflight checks, crew noticed three main rotor blade tip caps had been damaged during prior night's training flight.

Class D

L series

■ Aircrew was performing multiple Fast rope and Infl/Exfil approach training. During approach to landing zone a bird impacted the aircraft main rotor system. The inspection revealed one damaged main rotor tip cap. The tip cap was replaced.

Class E

A series

■ During NVG flight approx eight minutes after take-off the main transmission oil press caution light illuminated. After completing the emergency procedure and cross checking transmission temperature and oil pressure, the aircraft was returned to airfield for a precautionary landing. The maintenance officer determined light was due to moisture from earlier aircraft wash.

■ Following 10 ft hover check on parking ramp, aircraft transitioned forward for take off and immediately encountered brownout conditions. PIC

on the controls turned right to avoid known obstacles and maneuvered to land on a known surface ramp. Tail wheel struck the ground and stabilator struck a metal pole. Further inspection revealed L/H side tail wheel landing

gear gouge and sheet metal damage to stabilator.

L series

■ At a ten-foot hover, the stabilator failed in the auto mode. When the IP

pushed the auto control to reset, the stabilator failed to return to the auto mode. The crew terminated the mission and returned to parking. Stabilator amplifier was replaced.

For more information on selected accident briefs, call DSN 558-9855 (334-255-9855). Note: Information published in this section is based on preliminary mishap reports submitted by units and is subject to change.

Aviation messages

Recently issued by AMCOM

SAFETY OF FLIGHT MESSAGE

March 2000

UH-1-00-07: Inspect Tail Boom Vertical Fin Assy

April 2000

AH-1-64-07: Loss—Aircraft Electrical Power

May 2000

CH-47-00-05: Inspect Pitch Housings
CH-47-00-06: APU Containment Device
AH-64-00-08: Loss—Aircraft Electrical Power

June 2000

AH-1-00-07: Imperial Main Rotor Grout
UH-1-00-08: Inspect 42 Degree Gearbox
UH-1-00-09: Inspect Mast Assembly

AVIATION SAFETY ACTION MESSAGES

March 2000

C-23-00-ASAM-01: Paradrop Restriction Removed

April 2000

AH-1-00-ASAM-07: Inspect for Relay, Solid State
CH-47-00-ASAM-01: Fuel Pods
OH-58-00-ASAM-02: Magnetic Chip Detectors

May 2000

AH-1-00-ASAM-08: Tail Rotor Driveshaft Coupling
CH-47-00-ASAM-02: Hinge Pin Shoulder Bolts
CH-47-00-ASAM-03: Hydraulic Fuel Sampling
OH-58-00-ASAM-03: False Engine Out Warnings
OH-58-00-ASAM-04: Directional Control Tube Chafing
UH-1-00-ASAM-04: Tail Rotor Driveshaft Coupling
UH-60-00-ASAM-05: Fire Extinguisher Wiring

June 2000

AH-1-00-ASAM-09: Restrict Firing Tow Missiles
OH-58-00-ASAM-05: Hydraulic Fluid Sampling
UH-60-00-ASAM-04: Inspect Tail Landing Gear/Shock Strut

IN THIS ISSUE

Assistance visits 2-3
How about those junior officers? 3-4
You've had an accident-now what? ... 4-5
Update to 385-10 5
Bad day at the beach . 6-8
Use your Kiowa DTM ... 8
Unsung heroes 9
New ASO Director 9
The Army goes to sea 10-11
True Faith 12-13
Apache pilots view ... 14
Mishaps 15-16
Recent Messages 16



Flightfax is published by the U.S. Army Safety Center, Fort Rucker, AL 36362-5363. Information is for accident-prevention purposes only and is specifically prohibited for use for punitive purposes or matters of liability, litigation, or competition. Address questions about content to DSN 558-9855 (334-255-9855). Address questions about distribution to DSN 558-2062 (334-255-2062). To submit information for publication, use fax 334-255-9528 (Attn: Flightfax) or e-mail flightfax@safetycenter.army.mil. Visit our website at <http://safety.army.mil>



POV Fatalities through 31 May

FY00	FY99	3-yr Avg
69	86	74

Gene M. LaCoste
Brigadier General, USA
Commanding

